Apoorva Prakash

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Projects

Custom Sign Language Detector   [CSLD](#)

- Designed and developed a dynamic gesture recognition tool enabling users to define custom sign actions mapped to words or phrases via real-time camera input.
- Engineered a spatial-temporal model using LSTM networks and 3D hand landmark vectors (x, y, z) extracted via MediaPipe, reducing dataset size by 60% while achieving 95% training accuracy.
- Gained expertise in human pose estimation, numerical data modeling, and efficient gesture classification without reliance on image-based CNNs.
- Tools Used: Python, OpenCV, MediaPipe, NumPy, TensorFlow, LSTM

Carbon Footprint Calculator   [CFa](#)

- Built an AI tool that estimates annual carbon emissions from user activity and compares them to local benchmarks.
- Used pre-trained models and EPA data to deliver personalized suggestions, improving accuracy by 35% over static tools.
- Learned to combine ML, public datasets, and user input for actionable environmental insights.
- Tools Used: Python, scikit-learn, REST APIs, pre-trained ML models

AutoCat – CLI Wrapper for Hashcat   [Autocat](#)

- Built a Bash script that simplifies Hashcat by guiding users through prompts and auto-running corresponding commands.
- Made Hashcat more accessible to beginners by abstracting complex syntax.
- Sharpened Bash scripting skills and deepened knowledge of Hashcat's workflow and CLI UX.
- Tools Used: Bash, Python

Interactive Constitution Learning Tool   [GS](#)

- Developed a React-based game to teach concepts of the Indian Constitution to rural audiences with low literacy.
- Replaced legal jargon with interactive quizzes and visuals, boosting accessibility and engagement.
- Gained practical experience in civic-tech design and front-end state handling.
- Tools Used: React, JS, CSS

Education

SRM Institute of Science and Technology, B.Tech in Computer Science spec in Cyber Security   Jun 2022 – Present

- CGPA: 8.63
- **Coursework:** Computer Architecture, Comptational Theory, Coding, Cyber Security, Forensics & Incident Response, AI & ML

Technologies

Languages: C++, C, Python, C#, SQL, HTML, CSS, Js

Technologies: Microsoft SQL Server, Blender, PowerBi, AI